RUBY LAKE NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

FOR 1965

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

RUBY VALLEY, NEVADA

REFUGE PERSONNEL

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(Transferred to Hart Mountain Refuge, July)

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Summer Temporary

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Robert L. Bandfield — Laborer

Michael R. Green — Laborer

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I. GENERAL

A. Weather Conditions

During the early part of the year extreme temperature variations occurred, with January ranging from 54 to -5; the other first period months did similarly. A small amount of snow fell and little other moisture was received leaving approximately half the normal precipitation. Damaging winds occurred on two occasions and considerable miles of wind accumulated.

Spring was characterized by below normal precipitation with a long warm period that finally became summer.

Summer was truly out of the ordinary with more than twice normal precipitation most of which came as major rains rather than summer sprinkles. Evaporation remained low with low temperatures and moderate winds.

Fall was extremely long, warm and dry with but half the normal precipitation.

Heavy rains in November broke the long dry spell and the low temperatures following were the beginning of winter. Several minor snows and one major eleven inch storm ended the year.

In summary, 1965 was a truly unusual year with many monthly precipitation patterns being either several times greater or several times less than normal.

Mr. S. D. Green and Richard Fisher, U. S. Weather Bureau, Salt Lake City, Utah furnished the refuge weather station with a new shelter, rain gauge and evaporation tank.

The following chart summarizes data collected at the Refuge Weather Station:

PRECIPITATION

Month	Snowfall	This month	Normal	Max. Temp.	Min. Temp.	Evap.	Wind (miles)
Jan.	10.5	.78	1.03	54	- 5		1642
Febr.	.5	.43	1.06	61	0		1184
March	6.5	.70	1.61	64	8		1623
April		1.65	1.15	72	23		2153
May		.55	1.14	78	14		2089
June		.84	1.06	85	34	6.02	1282
July		2.12	.53	91	42	7.32	1211
Aug.		2.05	.49	88	41	5.00	899
Sept.		.58	.72	79	18	4.59	1163
Oct.		.20	1.20	82	22	4.43	808
Nov.		2.26	1.40	70	9		1396
Dec.	19.0	1.47	1.58	57	-13		1051
TOTAL	36.5	13.63	12.97	91	-13	27.36	16,501

B. Habitat Conditions

1. Water

Water year 1965 was above normal; spring flows remained high and continued throughout the summer. It was not difficult to maintain controlled water levels near their optimums. The South and East Sumps benefited greatly from this continued source of water with good waterfowl production occurring for both ducks and geese. The water level in the South Sump raised approximately 17 inches and now covers considerably more surface acres. Emergent and aquatic vegetation responded favorably and adequate food was available to raise broods to flight stage.

Good amounts of winter moisture are accumulating at both lower and higher elevations. In fact, they are above normal for this time of year, projecting at least a normal water year for 1966.

2. Food and Cover

Sufficient natural food provided by the aquatic habitat sustained waterfowl numbers throughout 1965. Extensive islands of pondweed almost completely vanished with concentrated use. Growths of emergent vegetation were not noted to change substantially.

The refuge cultivated grain was most popular during the fall migration; Mallards and Canada geese especially concentrating in good numbers. The upland vegetation responded to the normal water year showing good growths in all native grasses.

Considering all conditions this was a very good year.

II. WILDLIFE

A. Migratory Birds

Annual total waterfowl use increased in 1965 from 3,939,386 to 6,015,331 days use, or approximately a 33% incline. This increase resulted from an increased usage by ducks and coots. (See bar graph). Swan and goose days decreased slightly. Mallards, American Widgeon, Pintail, Green-winged Teal, Redhead, Canvasback and Ruddy ducks showed appreciable gains mainly

during the fall migration. Temperature seemed to be the contributing factor with an early cold snap that moved the birds a short distance, then a warming trend that lingered for a long period before complete freeze-up.

We are very elated to report the reproduction of 9 Trumpeter Swan cygnets to flight age. Four of these cygnets were produced on Franklin Lake. Large muskrat houses seem to be a requirement for successful Trumpeters.

No large Whistling Swan migration was noted.

Waterfowl production data is revealed in the following chart. The over-all increase was attributed to the excellent Coot reproduction. Duck broods were down slightly, but the geese doubled their output of 1964.

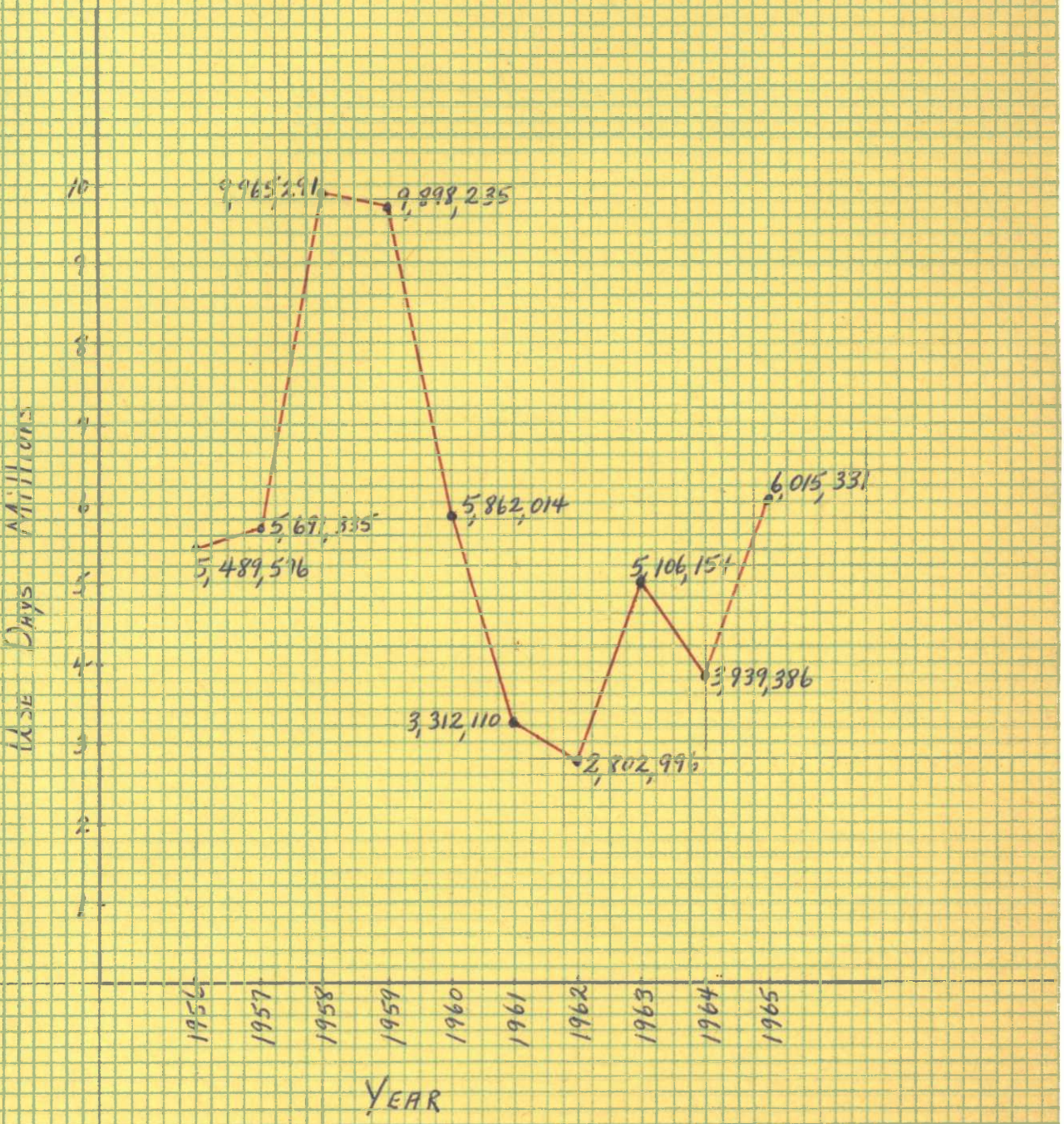
TEN-YEAR WATERFOWL PRODUCTION DATA

	Swan	Geese	Ducks	Coots	Total
1956	0	400	1,960	1,000	3,360
1957	0	550	1,960	3,290	5,800
1958	6	322	2,302	3,870	6,500
1959	0	200	5,445	3,000	8,645
1960	3	292	5,430	6,500	12,225
1961	2	400	3,875	2,000	6,277
1962	0	350	1,300	2,500	4,150
1963	13	150	3,530	8,000	11,693
1964	0	130	3,300	6,000	9,430
1965	13	260	2,820	12,600	15,693

The two graphs on the following pages compare total waterfowl days use for the past ten years and comparable 5-year use by species.

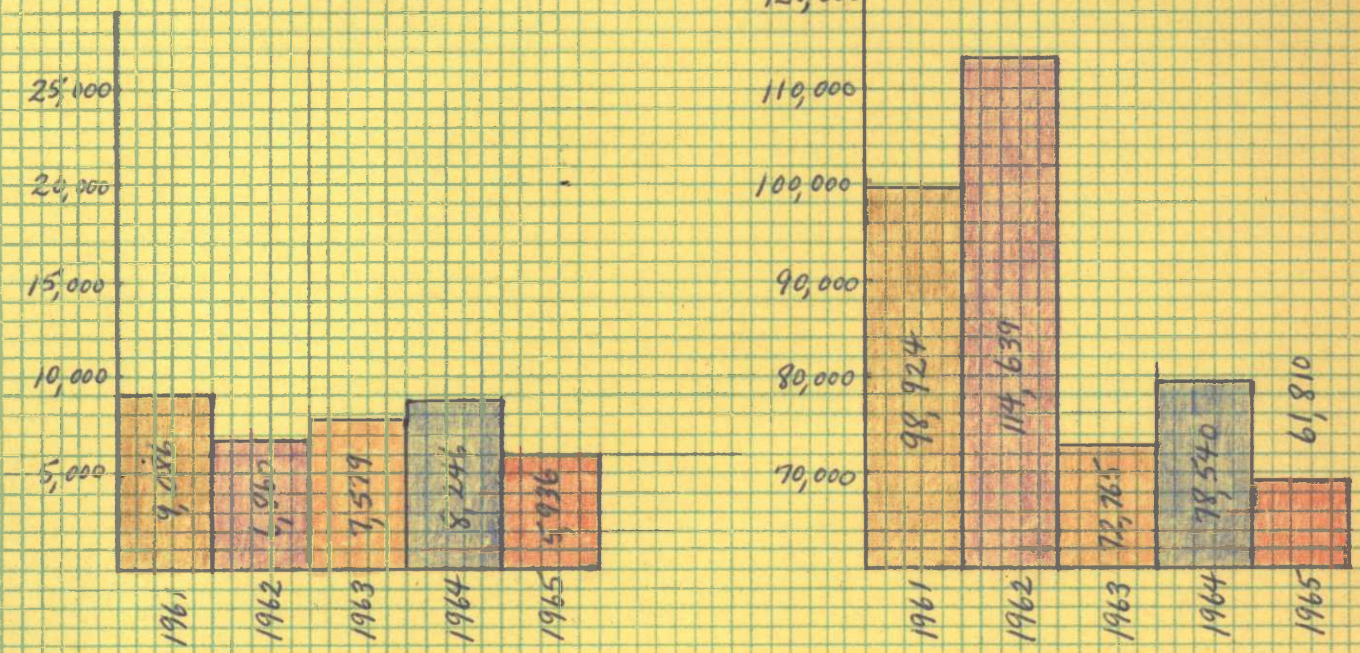
COMPARATIVE TEN-YEAR TOTAL WATERFOWL USE

January 1 to January 1

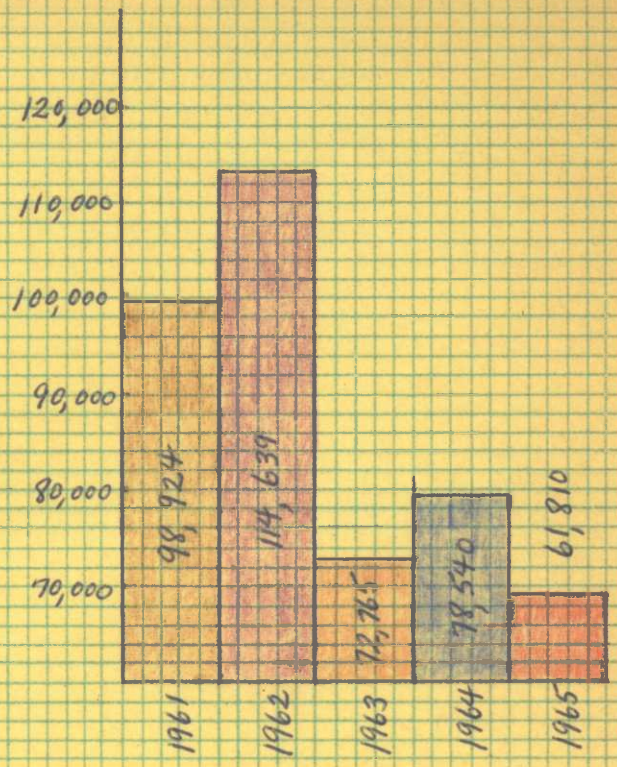


COMPARATIVE USAGE BY SWANS, GEESE, DUCKS AND COOTS

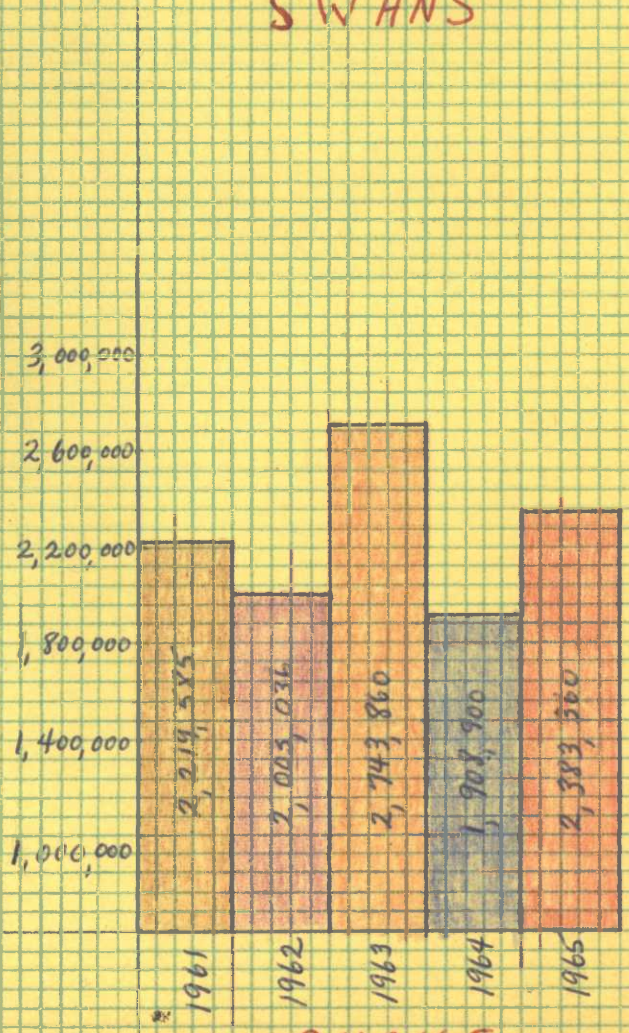
January 1 to January 1



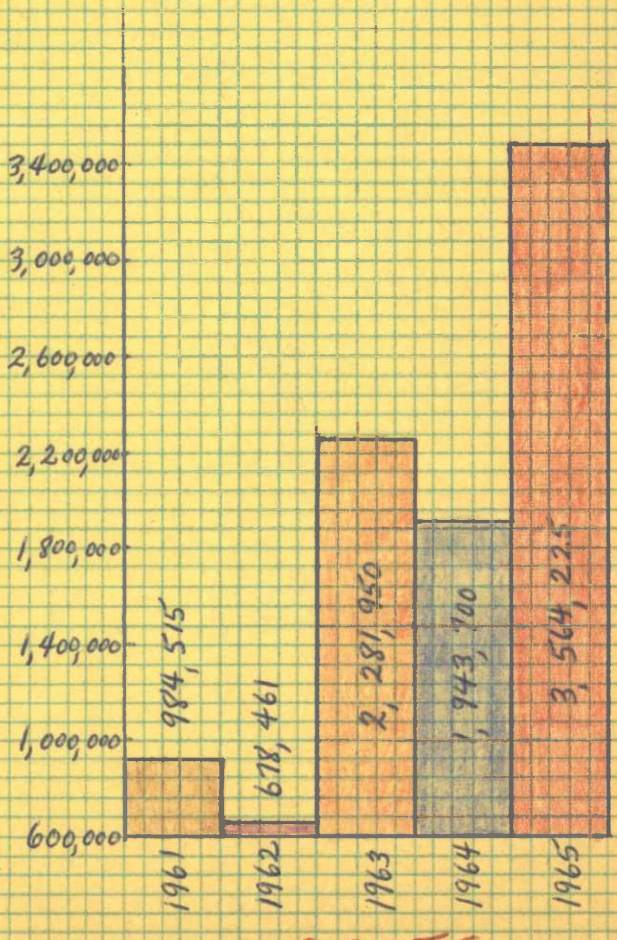
SWANS



GEESE



DUCKS



COOTS

B. Upland Game Birds

The four varieties of upland game birds, Sage Grouse, California Valley Quail and the two Partridges, Gray and Chukar have maintained their populations at essentially the same level for the past three years.

There was an initial dispersion of Quail shortly after their release near refuge headquarters in February of 1963, but they are now rarely seen other than at refuge headquarters and the State Fish Hatchery located one mile south. About 30 Quail take daily advantage of grain scattered for their benefit near the refuge residences.

C. Big Game

Up to 800 Mule Deer, in groups of from 10 to 200, could be seen along the west edge of the refuge during spring migration from their wintering areas south of the refuge. Summer range for these deer is the high Rubies immediately west of the refuge though some deer remain on the refuge at all times.

Each year several doe choose to raise their fawns in the marsh willows east of headquarters - six did so this year.

Moderate hunting for Mule Deer occurred along the western refuge boundary, but success was definitely lower than previous years due to a shorter season and extremely dry hunting conditions.

Fall migration is more nonchalant requiring a longer period. A snow storm and cold weather during the first week of December forced the remaining Mule Deer to winter ranges.

Deer groups, numbering 7 to 19, are nightly visitors to the headquarters area during the winter months.

D. Fur Animals, Predators, Rodents and Other Mammals

The muskrat population in the developed units is at an optimum level and is easily capable of producing the 3,000 animals that have been annually taken the past several years. Since Hardstem bulrush is the main food and house-building material, small openings have been created in the dense stands of this plant. Muskrat numbers in the South Sump have steadily increased with the refilling of this area after the severe dry spell in 1960. With water levels in the South Sump at their highest in recent years, the muskrats responded to the habitat and a harvestable surplus resulted. Trappers are now harvesting this surplus. No beaver have

been noted on the refuge this year. The coyote population has increased, but is still considered moderate. Numbers are greatest at the south end of the refuge where a sheep ranch adjoins the refuge. Coyote tracks on snow-covered ice were frequently seen by trappers, but only four muskrats are known to have been eaten. The coyotes main diet is jack-rabbits and rodents. Several sightings, as well as tracks, show the bobcat to be present in moderate numbers. Refuge trappers have reported that four muskrats were taken from their traps by bobcats.

Mountain lion activity has not been apparent on the refuge, though a young female was found dead in the headquarters area. Compound 1080 is suspected since a 1080 station was established three miles north of headquarters two weeks prior to the find. The carcass was taken to the University of Nevada in Las Vegas for analysis. A government mountain lion hunter regularly hunts the Rubies along the west refuge boundary and usually gets one or two mountain lions annually.

A few mink, no more than five, are present around the State Fish Hatchery. Though they are never abundant, weasels are not infrequently seen. They are conspicuous after they have turned white and the snow has gone. Porcupine, or their sign, can be found along the west edge of the refuge and several have been seen in the headquarters area. Black-tailed jackrabbits and cottontails are increasing, but still at moderate levels.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies

Turkey Vultures again used their traditional roost in the aspens and cliffs behind headquarters, where from 40 to 60 could be seen mornings and evenings. The Cooper's and Red-tailed Hawks, which in the past were generally more abundant during warm weather are frequently seen during colder parts of the year. Rough-legged Hawks, our cold weather visitor, is quite common over the entire refuge during winter. Golden Eagles were observed during winter and spring in groups up to five, though only one Bald Eagle was recorded during late December. Marsh Hawks can always be seen hunting over the entire refuge area. Checks on many flushed birds have revealed remains of muskrats, coots and small rodents which are the staple food. Refuge trappers particularly despise this bird for it quickly makes a damaged pelt of any muskrat it may find in an exposed trap. A single Osprey, a rare visitor to Ruby, was seen during early spring. A Prairie Falcon and several Sparrow Hawks were regularly seen for a short period in mid-winter. The latter is also seen in good numbers during most of the warmer months.

Horned Owls are commonly seen evenings and their call can always be heard in the twilight hours. A Horned Owl was discovered eating a freshly-killed cottontail in the headquarters area. Short-eared Owls are common, particularly when observations are made in marsh areas in late evening. Magpies are ever present and in good numbers. A trap set up last spring took from 3 to 22 daily. Ravens and Crows were observed in good numbers. Groups of 200 Crows and 25 Ravens could be seen during early spring and late fall.

F. Other Birds

In conjunction with the Mourning Dove banding project, all other birds trapped were banded. This resulted in banding 466 perching birds.

Starlings, first observed in 1948, are becoming regular residents during winter and spring. Several nests of this potential pest have been discovered and destroyed.

G. Fish

With fishing season opening on January 9, fishermen were confronted with snowy roads and below freezing weather. Those who did fish the early part of the season were rewarded with good catches of large trout. The heaviest verified fish being a 10¼ pound Rainbow, though one 15 pounder was reported. When Largemouth Bass fishing became productive in mid-summer, as many as 60 cars could be seen parked along refuge dikes. Many fishermen used boats to fish the South Sump for Bass and catches were very good with limits easily taken. A 5 3/4 pound Largemouth was the largest of this species. Late season fishing was especially good for large Rainbow and Brown Trout.

Bass conditions are very good in the South Sump with extremely favorable water levels. The developed units are producing Bass in quantities to support the transplantation program initiated in 1959. This year 5,735 Bass under 10" were seined and transplanted to other available waters within the state. Five hundred of these were tagged and released in the South Sump. Bass tagging operations are covered in Section V.

Though there is some trout reproduction on the refuge, the trout fishery must be on a transplant program to meet the fishing demand. Refuge trout transplants set a record and were nearly twice that of any previous year.

BASS TRANSPLANTS

Year	Number	Destination
1959	6,280	Lyon, Churchill, Washoe, Pershing and White Pine Counties
1960	3,200	Western Nevada Counties
1961	8,566	Entire state
1962	4,659	Stillwater Refuge and rest of state
1963	5,087	Stillwater Refuge and Rye Patch Reservoir
1964	3,225	Western Nevada Counties
1965	5,735	Stillwater Refuge and Sunnyside Management Area
TOTAL	36,752	(all fish under 10")

TROUT PLANTED IN REFUGE WATERS 1965

Species	Number	Average Size	Pounds
Rainbow	36,365	3" - 13"	8,600
Brown	5,746	8" - 14"	2,306
Brook	26,525	fingerling-9"	1,540
TOTAL	68,636		12,446

H. Reptiles

Various small lizards were not abundant though several non-poisonous snakes were seen on all parts of the refuge. Rattlesnakes were seen and collected in greater numbers this year than in the past. Three were taken in a short period of time near the popular Bressman Cabin camping site, prompting a complete exodus of campers.

I. Disease

No signs of disease were detected in any part of the wildlife population. Cattle permittees reported few incidence of disease among their stock on the refuge.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

1. The experimental rejuvenation of Unit 21 has survived its second year with the photo stations designating no vegetative change. Water soaked tubers of the Hardstem remain present, but no regrowth is occurring. This still proves to be a mystery. Waterfowl use shows a significant increase.

2. Spring-head Development Program.
No work of this type has been accomplished since the creation of Ruby Lake Refuge. For many years cattle have trampled existing springs and siltation run-off has, in some cases, completely covered these valuable water sources. A complete spring-head survey has been conducted, revealing 136 sources of water. Approximately 90 remaining spring-heads and their channels to the marsh need renovation. The project commenced in 1963 with 6 springs receiving treatment with the tire-mounted Michigan Dragline. Twenty-seven were cleaned in 1964 and five in 1965. The resulting piles of silt will be worked to grade, planted to crested-wheat grass and fenced to protect spring sources from livestock trampling.

3. The three wells, windmills and watering tanks will be in operation for the 1966 grazing season.

Other maintenance projects either accomplished or in progress are as follows:

1. Removed old power line and poles in headquarters area.
2. Purchased and installed permanent combination storm doors, windows and screens.
3. Ground the valves on 1953 Jeep.
4. Constructed 10 goose nesting platforms.
5. Placed cab on 1953 Jeep.
6. Planted willows, elms and junipers.
7. Built 10 funnel type dove traps.
8. Fence repairs on both interior and boundary fences.
9. Goose project - 10 pairs of young geese were caught and transplanted to the State Sunnyside area as a nucleus flock. This will be a 3-year program.
10. Ballast rack for Travelall.
11. Banding operations.
12. Road and dike grading and re-shaping.
13. Five new toilets were purchased and placed in appropriate locations. Thirty loads of gravel were required for landscaping. Many favorable comments were received.

14. Salvaged 18 culverts from highway construction project.
15. Remodeled fire pumper and maintained fire equipment.
16. Replaced Unit 14 water outlet. This water control structure has been inoperable since the 1950's. The concrete structure was replaced with a culvert and flash board attachment. Forty-five loads of back-fill were required.
17. Disked 85 acres of Common Rye.
18. Replaced dragline clutch, repaired loader clutch and hydraulic system.
19. Assembled windmill towers and motors; acquired tanks.
20. Constructed cattle guard wings.
21. Forty loads of back-fill were required to repair dike erosion and muskrat damage.
22. Purchase of 1500 bushel granary.

B. Plantings

1. Aquatic and Marsh Plants

None.

2. Trees and Shrubs

Ninety Black Willow slips were started in water and then planted in the picnic area. A double border of trees were established around the entire area with trees randomly planted within.

Twenty young Chinese Elm were planted in the headquarters area.

One hundred ninety Pfitzer Juniper were used to form borders around the headquarters lawns. These shrubs grow to the height of three feet and form a low-growing hedge. They have a distinct advantage over other shrubbery, in that deer, rabbits and porcupines reportedly do not eat them.

3. Upland Herbaceous Plantings

None.

4. Cultivated Crops

The 85 acres of Common Rye produced a good crop without having to be replanted. For three consecutive years the rye has been disked lightly in the fall when moisture becomes available. The grain yields quantities of mature seed for waterfowl food and enough seed germinates for next years crop.

C. Collections and Receipts

1. Seeds or Other Propagules

Ten thousand pounds of barley was acquired from Sacramento Refuge for use during waterfowl and dove trapping.

2. Specimens

An adult male Trumpeter Swan, killed by a hunter (see violations), is being held pending proper disposition.

D. Control of Vegetation

All refuge dikes and roadsides, as well as the headquarters area, were mowed using a hay mower in order to keep these areas attractive as well as accessible.

Approximately 115 acres of sage and rabbitbrush were mowed with the Servis brush-beater. Soil compaction was excellent without the preparation of a seed bed. Crested Wheat was seeded at 8 lbs./acre after the first fall moisture.

Eight hundred acres of greasewood, sage and rabbitbrush were aerial sprayed with a mixture of 2-4-D Amine and 2-4-5-T @ 2 lbs. and 1 lb. per acre respectively. About 400 acres of land contained a mature stand of brush, the remaining half supported a regrowth of rabbitbrush and greasewood after a brush-beating treatment. Native grasses have responded in the brush-beat area. The estimated kill in the mature brush stand was 75%, in the re-growth area about 95%.

E. Planned Burning

The North and East Sumps were burned during late fall in order to thin solid stands of Hardstem bulrush. The resultant temporary openings are readily utilized by waterfowl for feeding and brooding purposes. Occasionally a permanent opening has formed where peat fires have burned down to mineral soil.

Controlled burning proves to be the most efficient and economical method for removal of sage and rabbitbrush where there is sufficient grass understory to carry the flame. This practice will be used or tried on all future sites designated for brush removal.

F. Fires

No fires occurred on the refuge and no refuge personnel were called upon to assist on outside fires.

IV. RESOURCE MANAGEMENT

A. Grazing

Five grazing permits were in effect: Orieal Saxton (11 horses, 73 AUM's); Walter Gardner (294 mixed cattle, 1180 AUM's); Raymond Gardner (319 mixed cattle and 27 horses, 1275 AUM's); Duval Ranching Co. (634 mixed cattle and 4 horses, 3690 AUM's) and Fort Ruby Ranch (122 mixed cattle, 442 AUM's). A total of 6,660 AUM's were used by these permittees for a return of $10, 050.71. The range was in excellent condition before and after the grazing season with all permittees reporting excellent gains and good stock conditions.

B. Haying

The Duval Ranching Company annually mow and buck three irrigated wild hay meadows. Small amounts of hay are stacked as security in case of early snows. The remainder of the bucked hay is left to dry and is later consumed more thoroughly by grazing livestock.

C. Fur Harvest

Muskrat population history shows that many highs and lows have occurred. Through proper harvest and marsh management, it is possible to curb these highs and lows and round them off to a more moderate, stable population. This is certainly not as easy as it sounds.

Observations and studies at Ruby indicate that an average of 2½ litters are produced per adult female each breeding season. It is, therefore, highly recommended that densely populated areas in the marsh and areas susceptible to damage (dikes and canal systems) be heavily trapped. The harvestable surplus must also be removed from the remainder of the muskrat population. The harvest of approximately 3,000 muskrats annually appears to curb the high numbers in the diked areas.

The muskrat population has increased rapidly in the South Sump, creating a harvestable surplus that has not been considered since 1961.

Refuge trapper quotas were set at five thousand animals - 2,500 from the diked units and 2,500 from the South Sump. Trapping began on December 2; the harvest to date totals 2,124 rats.

The following table summarizes the last four years of harvest:

Season Year	Est. Population	Rec. Harvest	Actual Harvest
1962-63	10,000	3,000	3,179
1963-64	10,000	2,500	2,622
1964-65	10,000	3,000	3,292
1965-66	15,000	5,000	In progress

D. Timber Removal

None.

E. Commercial Fishing

None.

F. Other Uses

None.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Coot Investigation

Only 20 Coot were banded in connection with the waterfowl banding program. Several returns resulted from the 599 banded in 1964. The most interesting return is from Central Mexico.

B. Hydrologic Investigation

Mr. William Dudley who was conducting research as part of a Ph D program did no field work this year. The refuge will be furnished a copy of his findings when he has completed the project. His comments and information have given further basis for continuation of the spring development program.

C. Muskrat Investigation

This project was initiated after a lapse of nine years. A total of 1,803 pelts were aged by pelt primeness patterns; 473 fresh animals were aged, sexed, measured and weighed. Information on population size, location and movement was gathered; trapping pressure data were collected by units.

During the course of this study, it was suspected that there was a small number of rats of a different sub-species confined to a small area of the undeveloped marsh. Suspicions arose because of the very large constructed houses, up to 5' in height in this area. Significantly greater weights and lengths were recorded when data was compared to the rest of the marsh. No introduction records were available. All former refuge managers were contacted concerning unrecorded information, particularly on past introductions. A reply from former Refuge Manager Dill revealed that 25 muskrats were introduced from Tule Lake Refuge in 1940 to approximately the same area where they are now found. Tule Lake muskrats are known to exhibit different characteristics than the rats here. There is a possibility that other small populations still exist from the 1940 introduction. Information gathered thus far agrees with Errington and other investigators on the subject (Investigational Techniques and Methods used by Errington).

The following tables depict some of the data gathered during the 1964-65 trapping season, but this is by no means the extent of the data available. Periodic progress reports will be made as data processing is completed.

A project such as this requires close cooperation with refuge trappers and we are fortunate to receive excellent help from the refuge trapper Mr. Jack Lemback.

MUSKRAT TRAPPING PRESSURE AND HARVEST
12/1/64 - 3/5/65 BY UNITS

Unit	Acres	No. Trap Sets	Sets/Acre	Catch	Catch/Set	Catch/Acre
10	280	244	.87	743	3.04	2.65
13	115	106	.91	331	3.12	2.00
14	265	255	.96	576	2.22	2.17
20	255	142	.56	275	1.93	1.07
21	155	39	.25	162	4.15	1.06
	1,070	786	.73	2,087	2.06	1.95

SEX AND AGE RATIOS

			AD:IMM	AD.MALE:AD.FEM:IMM
Fresh Animals	12/10-12/31/64	(80)	100:208	117 : 100 :450
Fresh Animals	1/1-3/5/65	(393)	100:134	126 : 100 :300
		473	100:144	123 : 100 :321
Cured-Pelt Primeness	12/10-12/31/64	(761)	100:213	
Cured-Pelt Primeness	1/1-3/5/65	(1042)	100:113	
		1803	100:146	

MUSKRAT WEIGHTS AND LENGTHS
BY AGE AND SEX

Date	Adult Male No.	Av.Wt. Oz.	Range Oz.	Av.Lt. In.	Range In.	Adult Female No.	Av.Wt. Oz.	Range Oz.	Av.Lt. In.	Range In.
Dec.10-15	8		27.0		9.4	6		30.0		9.8
		32.5	39.5	10.0	10.4		34.0	39.5	10.0	10.5
Dec.16-31	6		19.0		8.3	6		27.0		9.7
		31.6	37.0	10.1	10.8		34.4	37.0	10.2	10.4
Janl-15	35		26.0		9.4	27		24.0		9.3
		34.1	41.5	10.2	11.3		33.1	44.0	10.1	11.5
Jan.16-31	19		25.0		9.2	20		20.5		9.0
		31.7	41.0	10.0	10.9		33.0	42.0	10.2	10.9
Feb.1-15	22		23.0		9.3	7		26.0		9.9
		33.9	48.0	10.4	11.5		32.2	39.0	10.2	10.5
Feb.16-28	14		27.0		9.2	13		27.0		9.7
		35.5	46.0	10.4	11.2		33.7	42.0	10.4	11.4
Mar.1-5	3		28.0		9.9	8		27.0		9.6
		31.2	33.5	10.0	10.2		34.1	40.0	10.2	10.9
	107		19.0		8.3	87		20.5		9.3
		33.5	48.0	10.2	11.5		32.9	44.0	10.0	11.5
		Sub-Adult Male					Sub-Adult Female			
Dec.10-15	19		17.0		8.1	11		12.0		7.6
		23.5	29.0	8.8	9.8		22.3	33.0	8.7	10.1
Dec.16-31	13		16.5		8.0	11		19.5		8.0
		22.0	30.0	8.8	9.6		23.7	36.0	8.8	10.6
Jan.1-15	75		16.0		8.2	53		17.0		8.0
		26.0	36.0	9.2	10.7		25.3	36.0	9.3	10.4
Jan.16-31	41		16.5		7.8	24		17.0		8.3
		24.8	33.0	9.1	10.0		23.0	33.5	8.8	9.5
Feb.1-15	2		30.0		9.4	11		24.5		9.1
		30.2	30.5	9.9	10.4		29.6	36.0	9.8	10.3
Feb.16-28	5		28.0		9.8	7		19.0		8.2
		30.2	35.0	10.3	10.8		23.4	27.0	9.2	9.9
Mar.1-5	7		25.0		9.3	0		----		----
		29.0	35.5	9.7	10.1		----	----	---	----
	162		16.0		7.8	117		12.0		7.6
		25.4	36.0	9.2	10.8		24.7	36.0	9.1	10.6

D. Waterfowl Banding

Twenty-seven gosling Canada Geese were banded in a cooperative Bureau and Nevada Fish and Game program. The goslings will attempt to establish a nucleus breeding flock at Nevada Fish and Game's Sunnyside Area. (See Goose Transplant Project this section)

Pre-season waterfowl banding commenced 9/2/65 when four funnel traps were activated by Assistant Larochelle. High water levels presented difficulties; permanent banding sites were flooded. Early Pintail flights did not arrive until October 10 and the last five trap days produced the bulk of the 210 Pintails banded. Our Mallard quota was easily filled. Traps were not continuously operated, but were periodically inactivated allowing habitual repeats to disperse. All waterfowl trapped during the 43 trap days were banded. Wood Ducks were banded for the first record here. The following chart summarizes results:

Species	Number banded
Mallard	701
Redhead	393
Pintail	210
American Widgeon	83
Canada Goose	27
Green-winged Teal	15
Canvasback	9
Coot	9
Gadwall	9
Wood Duck	7
Blue-winged Teal	5
TOTAL	1,468

E. Mourning Dove Banding

Dove banding for 1965 proved successful. Operations began on 5/6/65 with the placement of 37 funnel type dove traps at the Fort Ruby Ranch sheep corrals in patterns we have found to be most effective. Forty-six trap days resulted in 831 banded doves; a number comparable to 1964.

F. Seeding Trials - Standard Soil and Range Survey

The experimental seeding trials on five species of grasses (Alkar Tall Wheatgrass, Birdsfoot Treefoil, Basin Wildrye, Alkali Sacaton, Russian Wildrye) proved to be unsatisfactory.

The Standard Soil and Range Survey was enlarged to include the entire fenced portion of the refuge, about 29,000 acres. This survey is two-thirds complete at the present time and entails aerial mosaic map, soil analysis, vegetative map and study, information on range condition, problem areas and corrective suggestions. This basic information will aid the Economic Use and the Soil and Moisture Programs. The entire study has been conducted by the District Soil Conservation Agent on a free gratis basis. The Refuge Manager wishes to show his appreciation.

G. Passerine Bird Banding

A total of 466 passerine birds were banded in conjunction with the dove banding program; no mist-netting was done. One thousand eighty-three perching birds have been banded since this program was initiated in 1963. No returns have been recorded to date.

The following is a tabulation of passerine birds banded in 1965:

Species	Number banded
Yellow-headed Blackbird	319
Brown-headed Cowbird	107
Lark Sparrow	18
Brewer's Blackbird	16
Red-winged Blackbird	3
White-crowned Sparrow	2
Yellow Warbler	1
TOTAL	466

466
831
1468
2765

H. Bass Tagging

Five-hundred bass have recently been marked with plastic dangler tags and released in the South Sump area. This is the second consecutive year that this work has been carried out by biologists of the Nevada Fish and Game Commission and the Bureau of Sport Fisheries and Wildlife. Approximately the same number of tagged bass were released along the dike system in 1964. Purpose of this operation is to evaluate angler harvest, bass growth rates and their movements.

Tag recovery boxes have been placed along various access points and fishermen capturing tagged bass are requested to place the tag in the boxes provided.

I. Canada Goose Transplant

Nevada State Fish and Game and Bureau of Sport Fisheries and Wildlife employees have cooperated in the transplantation of young Canada Geese from Ruby Lake to Sunnyside.

Eleven pairs of young Canada Geese, captured at Ruby Lake National Wildlife Refuge, are now residing in Nevada States Sunnyside Area where they will be held as nucleus breeding stock. This project will continue through 1966 and 1967 with 10 more pairs being transplanted each year.

J. Goose Nesting Platform Trials

Ten "Dill Design" goose nesting platforms were constructed and placed in the developed units during late March. Four different leg heights from three to seven feet hold the baskets above the vegetation and water. The platforms arrived too late for goose nesting in 1965. More platforms will be added and evaluations of their usefullness conducted.

VI. PUBLIC RELATIONS

A. Recreational Use

The top 20 Fishing Areas in Nevada Based on Angling Pressure as shown by the 1963 Questionnaire are:

Water	Angler Days Use
1. Lake Mead	280,657
2. Lake Mohave	99,671
3. Truckee River	67,558
4. Wildhorse Reservoir	40,339
5. Pyramid Lake	35,904
6. Walker Lake	27,871
7. Carson River*	20,441
8. Lake Tahoe	18,724
9. Lahontan Reservoir	17,879
10. Ryepatch Reservoir	15,049
11. Walker River*	12,566
12. Topaz Lake	12,502
13. Ruby Marsh	11,934
14. Colorado River	9,456
15. Wilson Sink Reservoir	7,126
16. Washoe Lake	5,706
17. Crittenden Reservoir	5,627
18. So. Fork Humboldt River	5,260
19. Cave Lake	5,163
20. Schroeder Reservoir	4,903

*Includes E. & W. Forks

Annual recreational visitation increased by 4,100 visitor days, or about 3%. Miscellaneous visits dropped a total of 3,000 days, while hunting and fishing increased 100 and 7,000 visits respectively. This tremendous upswing in the fishing category was caused by two factors: excellent Largemouth Bass fishery, the stocking of over 68,000 trout, most of catchable size, in refuge waters. Visitation from Utah, Idaho and California increased.

Forty landing mats were acquired through Federal Aid for use at the refuge boat landing.

B. Refuge Visitors

We present the following as official visitors:

VISITOR REGISTER

W-3
C.Y. 1965

DATE	NAME	ADDRESS Street	City	State
2-3-65	Richard D. Mundinger - Realty, Regional Office	Portland, Oregon		
2-18-65	Richard Russell - Naturalist	Bryce Canyon Nat'l Park, Utah		
2-24-65	Dave Millard - Engineer Assoc.	Elko, Nevada		
2-25-65	Tom Murphy - Soil Conservation Service	Elko, Nevada		
2-25-65	Ed Spencer - Soil Conservation Service	Wells, Nevada		
2-25-65	Aage Topholm - Soil Conservation Service	Wells, Nevada		
3-25-65	S. D. Green - U.S. Weather Bureau	Salt Lake City, Utah		
3-31-65	Tom Murphy - Soil Conservation Service	Elko, Nevada		
3-31-65	Dave Candland,- Soil Conservation Service	Elko, Nevada		
4-15-65	Ed Spencer - Soil Conservation Service	Wells, Nevada		
4-15-65	Aage Topholm - Soil Conservation Service	Wells, Nevada		
5-18-65	Jo Vaughn - Bird Photography	California		
6-7-65	Mike Drazin - Bird Photography	Purdue University, Lafayette, Maryland		
6-14-65	Charles T. Snyder - U.S. Geological Survey	Menlo Park, California		
6-8&9	Vic Oglesby - Nevada Fish & Game	Reno, Nevada		
6-8&9	James Birch - U.S. Game Mgt. Agent	Reno, Nevada		

VISITOR REGISTER

W-3
C.Y. 1965

DATE	NAME	ADDRESS Street	City	State
6-15 thru 18	Vic Oglesby - Nevada Fish & Game	Reno, Nevada		
6-15 thru 18	James Birch - U.S. Game Mgt. Agent	Reno, Nevada		
6-15 thru 18	Gene Wilson - U.S. Game Mgt. Agent	Las Vegas, Nevada		
6-15 thru 18	Charles Crunden - Nevada Fish & Game	Eureka, Nevada		
6-15 thru 18	Jim Lawman - Nevada Fish & Game	Elko, Nevada		
6-15 thru 18	Harold Peer - Nevada Fish & Game	Overton Mgt. Area, Nevada		
6-21 thru 25	Donald King - Fish & Wildlife Service	Reno, Nevada		
6-21 thru 25	Bob Summer - Nevada Fish and Game	Reno, Nevada		
6-29&30	Vic Oglesby - Nevada Fish & Game	Reno, Nevada		
6-29&30	James Birch - U.S. Game Mgt. Agent	Reno, Nevada		
6-29-65	Dr. Harry Gallagher - Elko Co. Game Board	Elko, Nevada		
6-29-65	Earl Warren - Justice Supreme Court	Washington, D.C.		
7-7-65	S. D. Green - U.S. Weather Bureau	Salt Lake City, Utah		
7-7-65	Richard Fisher - U.S. Weather Bureau	Salt Lake City, Utah		
7-8-65	John Johnson - Soil Conservation Service	Wells, Nevada		
7-8-65	Aage Topholm - Soil Conservation Service	Wells, Nevada		

VISITOR REGISTER

W-3
C.Y. 1965

DATE	NAME	ADDRESS Street	City	State
7-12-65	Dave Candland - Soil Conservation Service	Elko, Nevada		
7-28-65	Ron Bridgeman - U.S. Park Service	Lehman Caves Nat'l Monument, Nevada		
7-28-65	Fobert Fox - U. S. Park Service	Lehman Caves Nat'l Monument, Nevada		
8-10&11	Refuge Mgt. Assistant Frank Jacox - Regional Office	Portland, Oregon		
8-17-65	Vic Oglesby - Nevada Fish & Game	Reno, Nevada		
8-17-65	Osmon J. Ramsey - Bureau of Land Management	Elko, Nevada		
8-17-65	John Johnston - Soil Conservation Service	Wells, Nevada		
9-16-65	O. B. Howe - Bureau of Land Management	Reno, Nevada		
9-21-65	Cave Spelunker Eugene Zeizel - U. of Nevada	Lehman Caves Nat'l Monument, Nevada		
9-21-65	Cave Spelunker Alvin McLane - U. of Nevada	Lehman Caves Nat'l Monument, Nevada		
10-5&6	O. B. Howe - Bureau of Land Management	Reno, Nevada		
10-5&6	Jim Minney - Bureau of Land Management	Reno, Nevada		
10-5&6	Osmon J. Ramsey - Bureau of Land Management	Elko, Nevada		
10-12-65	Pilot-Biologist Ray Glahn - Regional Office	Portland, Oregon		
11-22-65	Baine Cater - Mgr., Desert Game Range	Las Vegas, Nevada		
12-14&15	Appraiser Lawrence W. Ward - Regional Office	Portland, Oregon		

C. Refuge Participation

Refuge Manager Lewis participated in the Field Management Training School in Portland from February 1 to April 1.

Lewis - Gave views of refuge program to Inter-agency Wildlife Meeting in Elko. Bureau of Land Management, Forest Service, Soil Conservation Service, Division of Wildlife Services and Nevada State Fish and Game personnel were present.

Lewis - Attended monthly meetings of the Elko County Game Board.

Lewis - Contacted Elko sportsmen on construction of foot bridge over collection ditch. The project was completed.

Lewis - Attended Job Corps acceptance meeting in Elko with business and professional people. Most were in favor.

Lewis - Met with Elko County Commissioners on repair of Harrison Pass road.

Larochelle - Presented slide talk on refuge objectives and program to Elko Rotary Club.

Larochelle - Attended Basic Refuge Manager Training Course at Arden Hills, Minnesota.

Larochelle - Participated in Continental Waterfowl Banding Project as part of a bait banding team stationed near Brooks, Alberta, Canada.

Larochelle - Presented 34 films at scheduled showings to the Ruby Valley Schools. These films were also shown to Refuge and State Hatchery personnel at evening programs.

Larochelle - Directed Nevada Youth Training Center boys in project to clean up refuge litter.

Larochelle - Club leader, attended all meetings of Ruby Valley 4-H Club.

Larochelle - Conducted Ruby Valley Schools on refuge tour.

Lewis and Larochelle - Attended Ruby Soil Conservation District meetings.

Longenecker - Attended Forest Service Blasting School at McCall, Idaho.

D. Hunting

Hunter use increased 100 visitor days in 1965 bringing the total to 500. The hunters totaled about 2,000 hours on the 9,000 acres open to waterfowl hunting only. Opening day received the greatest pressure with 40 hunters participating. Over-all seasonal use was very light. After the first few weeks, most of the hunting pressure resulted from Refuge and State Fish Hatchery personnel.

Large numbers of waterfowl were available during the first one-third of the season, but as the days progressed success declined due to freeze-up and bird exodus.

One uninformed hunter shot a Trumpeter Swan mistaking it for a Snow Goose and tagging it as such. (see violations).

E. Violations

A particularly regrettable violation occurred when a sadly uninformed hunter, Richard M. Troxler, Elko, Nevada, shot and killed a Trumpeter Swan mistaking it for a Snow Goose and tagging it for a Canada Goose! Immediately following the shooting, an informant alerted Assistant Larochelle who then apprehended the violator. The Elko Justice of the Peace subsequently fined Mr. Troxler $50.00.

Refuge law enforcement is carried out by State and Refuge personnel, results of this activity are listed below:

3/9/65	Darrell R. Davis	Fishing-closed waters	$50.00
5/13/65	Stanley O. Tucker	Fishing-closed waters	$50.00
	Wade C. Lacey	Fishing-closed waters	$50.00
10/25/65	Lawrence A. Lawson	Fishing-closed waters	$50.00
	Theone H. Coburn	Fishing-closed waters	$50.00
11/2/65	Basken Bennett	Fishing-closed waters	Dismissed*
	Joan Bennett	Fishing-closed waters	Dismissed*
12/28/65	Richard M. Troxler	Killing Trumpeter Swan	$50.00

*Judge questioned adequacy of posting. Posting has been intensified.

VII. OTHER ITEMS

A. Items of Interest

The lost-time accident record now stands at 4,247 days.

Manager Lewis attended the Field Resource Management Training Program held in Portland, Oregon from February 1 through April 1.

Assistant Larochelle attended the first Basic Refuge Manager Training Course held at Arden Hills, Minnesota from March 29 through April 30. He was also assigned to the Canadian Waterfowl Banding Program from July 28 through September 5. During this time he was part of a two-man bait banding team working out of Brooks, Alberta, Canada.

Mr. Carl Longenecker, our Maintenanceman for the past two years, transferred in July to the same position at Hart Mountain Refuge in Oregon. His smiling face and disposition will be remembered here for many years to come.

Mr. Gerald Morrow transferred from the Maintenanceman position at Little Pend Oreille to fill Mr. Longeneckers' former position. Gary is a capable and energetic worker and is very welcome to the refuge.

Credit is due Mr. Larochelle and Mrs. Lewis for preparation of this report. It was edited by Refuge Manager Lewis.

B. Photographs

These photographs were taken during the course of refuge activities.

SIGNATURE PAGE

Submitted by:

Donald E. Lewis
(Signature)

Refuge Manager
(Title)

Date: January 19, 1966

Approved, Regional Office: JSW

Date: FEB 9 1966

John D. Findlay
(Signature)

John D. Findlay
Associate Regional Director
(Title)

Refuge sign repair was completed with this sign. I guess the photographer was glad it was the last sign.

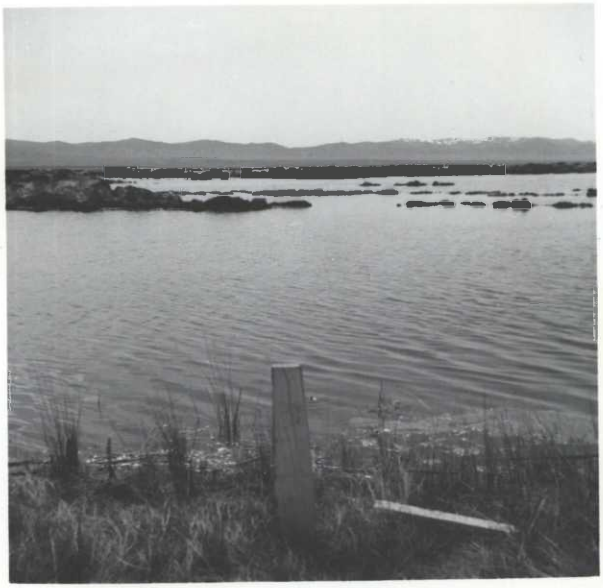
Three "Dill Goose Nesting Platforms" ready for location. Ten platforms were constructed.


U. S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
HEADQUARTERS
RUBY LAKE
NATIONAL WILDLIFE REFUGE

Hardstem Bulrush was threaded through the welded wire baskets, each was filled with hay.

Ready for "Mama Canada". Some of the nesting baskets were covered with burlap.

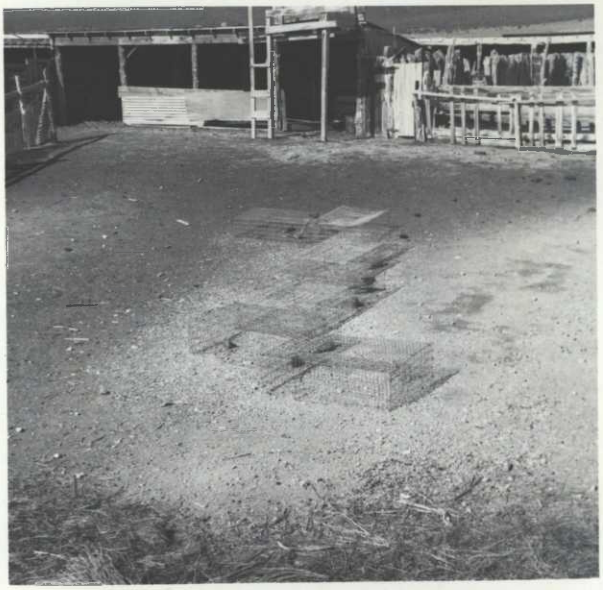
Photos from established stations in rejuvenated Unit 21. A search for Hardstem regrowth revealed no shoots. We are satisfied that it happened this way, but are at a loss as to the reason.



The Largemouth Bass tagging program included seining, tagging and transplantation.

A good catch of Mourning Doves. Note the trap arrangement and pattern.

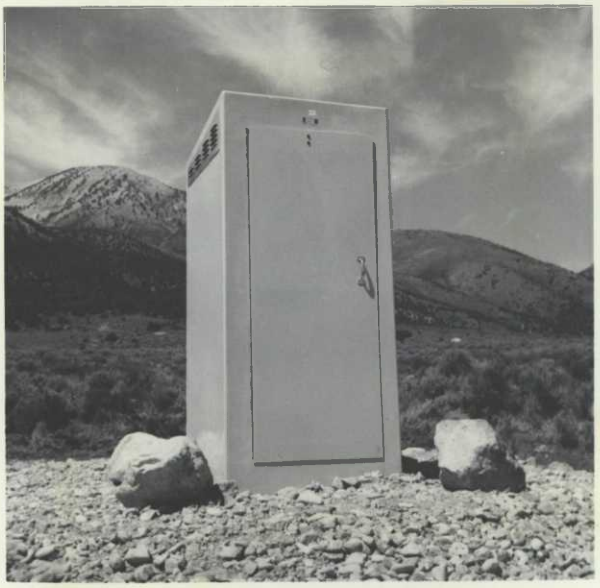
This is a single arrangement of dove traps. These patterns proved to be more effective than placing single traps at scattered locations.



Who says you're not young enough
to run down a young gosling?

Goslings awaiting transplantation
to the Nevada State Sunnyside
Management Area. Eleven pairs
in 1965.

Five fiber glass, pit type out-houses were purchased and placed in convenient locations on the Refuge. Results - many favorable comments. The conveniences were shipped fully assembled with skids, freight included for $228.00 each.



Elko County Sportsmen constructing a foot bridge across the collection ditch for better fishermen access.

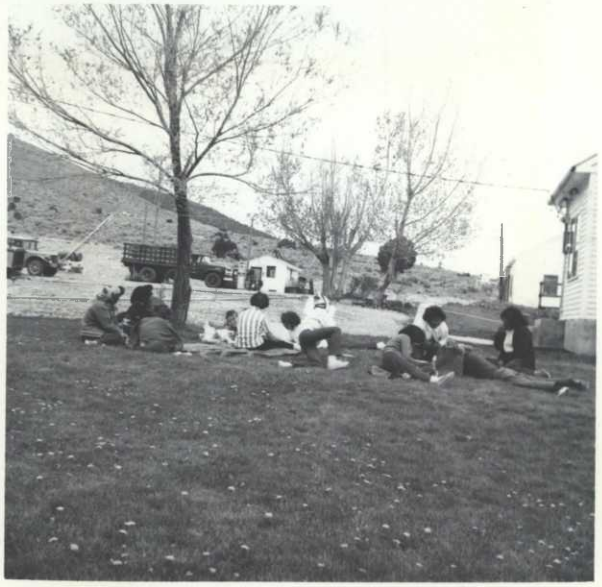
The scene at the Raymond Gardner air strip during aerial brush spraying operations.

Out with the old, inoperable
concrete water control structure.

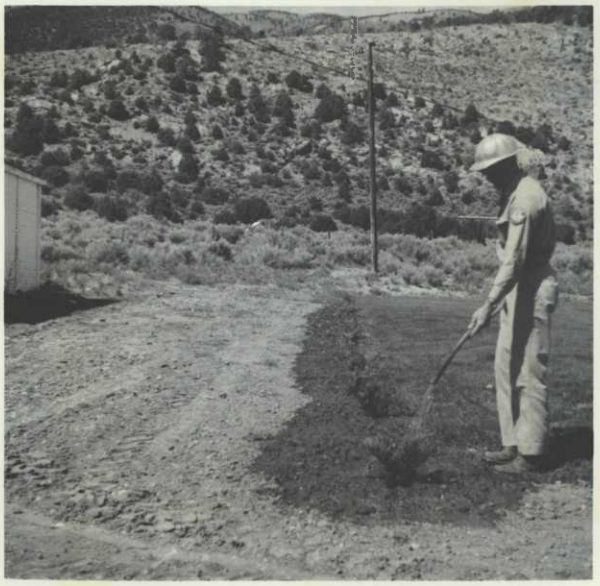
In with the new culvert and flash board combination.

Finishing touches to Diving Board Pond and spring.

Refuge participation included this group of youngsters from the North Ruby Valley School.



One hundred ninety Pfitzer Juniper were part of the beautification activities.



Headquarters and residence lawns were bordered. In hopes that it will not sound sarcastic "May Lady Bird be forever happy".

Old storm windows were replaced by the new combination summer and winter type.


FIRE

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Ruby Lake MONTHS OF January TO April, 1955

(1) Species	(2) Weeks of reporting period: 1/3-9 (1)	1/10-16 (2)	1/17-23 (3)	1/24-30 (4)	1/31-2/6 (5)	2/7-13 (6)	2/14-20 (7)	2/21-27 (8)	2/28-3/6 (9)	3/7-13 (10)
Swans:										
Whistling										
Trumpeter	14	14	14	14	14	14	14	14	14	14
Geese:										
Canada	10	10	25	10	10	10	20	75	125	150
Cackling										
Brant										
White-fronted										
Snow									10	
Blue										
Other										
Ducks:										
Mallard	125	125	75	100	100	125	100	150	225	250
Black										
Gadwall	25	25	25	25	25	25	25	50	75	125
Baldpate	50	40	35	25	40	40	40	75	100	125
Pintail	25	25	25	25	40	25	35	125	175	225
Green-winged teal	25	25	25	25	35	35	45	75	150	225
Blue-winged teal										
Cinnamon teal										50
Shoveler	25	20	10	10	10	10	10	40	75	75
Wood										
Redhead	10	10	10	10	15	15	20	50	75	100
Ring-necked	25		10	10	10	10	10	25	25	25
Canvasback	10	10	10	10	10	10	10	40	50	75
Scaup	25	15	25	25	25	25	25	35	50	50
Goldeneye	50	40	40	40	40	50	50	50	35	25
Bufflehead	10	10	10	10	10	10	10	20	45	50
Ruddy	25	25	25	25	25	25	25	50	75	100
Other										
Red B. Merganser		10	10	10		10	10	10	10	10
TOTAL DUCKS	430	380	335	350	385	415	415	795	1155	1510
Coot:	100	100	75	75	100	100	100	175	350	600

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Ruby Lake MONTHS OF January TO April, 19 65

(1) Species	(2) Weeks of reporting period: 3/14-20 (11)	3/21-27 (12)	3/28-4/3 (13)	4/4-10 (14)	4/11-17 (15)	4/18-24 (16)	4/25-5/1 (17)	(18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:											
Whistling											
Trumpeter	14	14	14	14	14	14	14		1,666		
Geese:											
Canada	150	150	200	200	200	200	200		12,215		
Cackling											
Brant											
White-fronted											
Snow	10								140		
Blue											
Other											
Ducks:											
Mallard	300	350	400	600	600	600	600		33,775		
Black											
Gadwall	175	200	200	200	300	300	300		14,700		
Baldpate	200	200	200	200	300	200	200		14,490		
Pintail	275	325	350	400	500	500	500		25,025		
Green-winged teal	250	275	300	300	400	300	200		21,630		
Blue-winged teal				50	100	100	200		3,150		
Cinnamon teal	175	200	400	600	600	800	800		25,375		
Shoveler	100	100	200	500	500	500	500		18,795		
Wood											
Redhead	125	175	200	400	500	500	500		19,005		
Ring-necked				150	150	150	100		4,900		
Canvasback	100	150	200	300	400	500	600		17,395		
Scaup Lesser	50	50	100	100	100	150	200		7,350		
Goldeneye	25								3,045		
Bufflehead	100	150	150		50	50	50		5,145		
Ruddy	125	150	200	250	300	400	400		15,575		
Other											
Red. B. Merganser	25	25	25						1,085		
TOTAL DUCKS	2025	2350	2925	4050	5000	5250	5150		230,440		
Coot:	800	1200	1500	2000	4000	6000	6000		162,925		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	1,666	14	
Geese	12,215	200	
Ducks	230,440	5,250	
Coots	162,925	6,000	

SUMMARY

Principal feeding areas Refuge marsh areas, meadows and grain fields

Principal nesting areas Marsh edges

Reported by O. S. Larochelle, Ass't Refuge Mgr.

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Ruby Lake Months of January to April 19 65

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Pied-billed Grebe	1	1/1	30	4/25-30	Still	present				20
Great Blue Heron	Year long resident		25	"	"	"				60
Snowy Egret	4	4/27	65	"	"	"				100
Black-crowned Night Heron	3	3/2	60	"	"	"				75
American Bittern	Year long resident		30	"	"	"				50
White-faced Ibis	2	4/28	10	"	"	"				20
Sandhill Crane	2	3/11	20	"	"	"				30
II. Shorebirds, Gulls and Terns:										
Killdeer	2	3/2	75	4/25-30	Still	present				200
Long-billed Curlew	2	4/20	20	"	"	"				20
Spotted Sandpiper	2	4/22	30	"	"	"				75
Western Willet	4	4/21	20	"	"	"				30
Lesser Yellowlegs	4	4/18	12	"	"	"				50
California Gull	1	4/1	2	"	"	"				10
Forster's Tern	3	4/28	3	"	"	"				10
Common Snipe	Year long resident		6	1/10	"	"				25
American Avocet	1	4/21	10	4/25-30	"	"				50

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	10	3/14	100	4/25-30	Still	present		400
White-winged dove								
IV. Predaceous Birds:								
Golden eagle	1	3/29	5	4/25-30	Still	present		10
Duck hawk								
Horned owl (Great)	Year long	resident	20	"	"	"		30
Magpie	" "	"	200	"	"	"		400
Raven	" "	"	40	"	"	"		100
Crow	15	3/1	100	"	"	"		250
Turkey Vulture	1	3/22	60	"	"	"		80
Marsh Hawk	Year long	resident	10	4/25	"	"		50
Cooper's Hawk	2	3/26	12	3/10-17	"	"		20
Red-tailed Hawk	1	3/19	3	4/25-30	"	"		10
Rough-legged Hawk	1	1/1	15	"	"	"		20
Prairie Falcon	3	1/1	6	2/15-20	"	"		10
Sparrow Hawk	1	4/27	5	4/30	"	"		10
Osprey	1	4/27	1	4/27	"	"		1

Reported by O. E. Larochelle, Ass't Refuge Mgr.

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

36104

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Ruby Lake Months of January to April, 1965

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sage Grouse	Upland sage & rabbitbrush 20,000 acres	100	0	0	0	0	0	0	200	Residents On & Off use
Chukar Partridge	Mountain foothills 8000 acres	160	0	0	0	0	0	0	50	Resident populations occurring from transplants
Gray Partridge	Mountain foothills 8000 acres	160	0	0	0	6	0	0	50	Resident populations occurring from transplants
California Valley Quail	Mountain drainages 225 acres	3	0	0	0	0	0	0	75	Resident populations occurring from transplants

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Ruby Lake Year ending April 30, 1965

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs						(5)
								Share Trapping						Total Population
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re-stocking	For Re-search	Permit Number	Trappers Share	Refuge share	Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
Mink	Marsh 2,000	200												10
Badger	Upland 27,000													10
Coyote	Upland & Marsh 36,000				10									25
Bobcat	Upland 27,000													15
Muskrat	Marsh 12,000	1.2						T-6638	2588	764	764	0	0	10,000

* List removals by Predator Animal Hunter

REMARKS:

Reported by O. E. Larochelle, Ass't Refuge Manager

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

32715

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Ruby Lake MONTHS OF May TO August, 1965

(1) Species	(2) Weeks of reporting period 1 (5/2-8)	2 (5/9-15)	3 (5/16-22)	4 (5/23-29)	5 (5/30-6/5)	6 (6/6-12)	7 (6/13-19)	8 (6/20-26)	9 (6/27-7/3)	10 (7/4-10)
Swans:										
Whistling										
Trumpeter	14	14	14	14	14	14	14	14	14	14
Geese:										
Canada	200	350	350	350	325	325	325	325	325	225
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	600	600	600	600	600	600	600	600	600	600
Black										
Gadwall	300	300	350	400	450	450	450	450	450	450
Baldpate	200	300	300	300	300	300	300	300	300	300
Pintail	500	500	500	500	500	500	500	500	500	500
Green-winged teal	200	250	250	250	250	250	250	250	250	250
Blue-winged teal	200	200	75	50	25	25	25	25	25	25
Cinnamon teal	800	800	800	800	800	800	800	800	800	800
Shoveler	500	500	500	500	500	500	375	375	375	375
Wood										
Redhead	500	600	700	700	700	700	700	700	700	700
Ring-necked	100	150	250	400	400	400	400	400	400	300
Canvasback	600	600	600	600	600	600	600	600	600	600
Scaup Lesser	275	300	250	200	200	200	200	200	200	200
Goldeneye										
Bufflehead	75	75	100	200	200	200	200	200	200	200
Ruddy	400	400	400	400	400	400	400	400	400	400
Other Common Merg.								10	10	10
Red-b. Merg.	10	20	10	10		10	10	10	10	
Total Ducks:	5,260	5,595	5,685	5,910	5,925	5,935	5,810	5,820	5,820	5,710
Coot:	6,500	7,000	8,000	8,500	9,000	11,000	12,000	12,800	13,500	15,000

Int. Dup. Sec.,
Wash., D. C. 37944

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Ruby Lake MONTHS OF May TO August, 1965

(1) Species	(2) Weeks of reporting period: 7/11-17 (11)	7/18-24 (12)	7/25-31 (13)	8/1-7 (14)	8/8-14 (15)	8/15-21 (16)	8/22-28 (17)	8/29-9/4 (18)	(3) Estimated waterfowl days use	(4) Production: Broods seen	Estimated total
Swans:			Aerial								
Whistling											
Trumpeter	14	14	20	20	20	20	20	20	2,016	3	9
Geese:											
Canada	225	225	100	150	200	200	200	200	32,200	56	260
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	600	600	600	700	700	900	1,000	2,000	91,700	21	920
Black											
Gadwall	450	450	400	450	450	500	500	500	54,250	5	180
Baldpate	350	350	300	300	300	200	200	200	35,700		
Pintail	500	400	450	800	800	1,000	1,200	2,500	88,550	4	120
Green-winged teal	250	250	200	300	400	400	500	800	38,850		
Blue-winged teal	10	10	100	200	200	200	300	400	14,665	1	40
Cinnamon teal	800	800	800	800	600	500	500	400	92,400	8	300
Shoveler	375	375	350	300	200	200	200	200	46,900		
Wood											
Redhead	700	700	600	700	800	900	1,000	1,000	91,700	6	1,100
Ring-necked	200	200	200	200	200	200	200	200	33,600		
Canvasback	600	600	700	700	900	1,000	1,000	1,000	87,500	19	600
Scaup Lesser	200	200	200	200	200	200	200	200	26,775	6	70
Goldeneye											
Bufflehead	300	300	200	200	200	150	100	200	23,100		
Ruddy	400	400	400	400	400	400	500	400	51,100	3	350
Other Common Merg.	10	10							350		
Red B. Merg.									630		
Total Ducks:	5,745	5,645	5,500	6,250	6,350	6,750	7,400	10,000	777,770		
Coot:	16,000	18,000	16,000	16,000	15,000	15,000	16,000	16,000	1,598,100	83	4,000

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	2,016	20	9
Geese	32,200	325	260
Ducks	777,770	10,000	3,680
Coots	1,598,100	18,000	4,000

SUMMARY

Principal feeding areas Refuge marsh areas, grain fields and meadows.

Principal nesting areas Dikes, marsh edges and islands.

Reported by O. E. Larochelle, Ass't Mgr.

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Ruby Lake Months of May to August 19 65

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Great Blue Heron	Previous	Period	40	6/18	Still	Present	0	0	0	40
American Bittern	"	"	20	6/18	"	"	0	0	0	50
Sandhill Crane	"	"	30	8/30	"	"	0	0	0	30
Black-crowned Night Heron	"	"	20	6/20	"	"	0	0	0	100
Snowy Egret	"	"	90	7/30	"	"	0	0	0	150
White-faced Ibis	"	"	30	7/30	"	"	0	0	0	60
Pied-billed Grebe	"	"	100	8/29	"	"	1	40	100	200
Eared Grebe	"	"	40	8/12	"	"	0	0	0	100
II. Shorebirds, Gulls and Terns:										
American Avocet	Previous	Period	50	5/29	Still	Present	0	20	40	75
Killdeer	"	"	100	6/30	"	"	0	50	100	300
Common Snipe	"	"	25	8/29	"	"	0	10	30	50
Long-billed Curlew	"	"	110	7/4	"	"	1	30	60	150
Black-necked Stilt	"	"	10	6/22	"	"	0	0	0	20
Forstere Tern	"	"	15	7/20	"	"	0	0	0	30
Black Tern	"	"	20	7/29	"	"	0	0	0	40
Willet	"	"	25	7/18	"	"	0	30	60	80
California Gull	"	"	10	8/14	"	"	0	0	0	20
Spotted Sandpiper	"	"	50	8/19	"	"	0	20	40	100

(over)

(1)	(2)		(3)		(4)		(5)			(6)
III. Doves and Pigeons:										
Mourning dove	Previous	Period	250	6/20	Still	Present	0	100	200	400
White-winged dove										
IV. Predaceous Birds:										
Golden eagle	Year Long	Resident	6	5/19	Still	Present	0	0	0	2
Duck hawk										
Horned owl	" "	"	20	8/20	"	"	0	0	0	10
Magpie	" "	"	200	5/20	"	"	20	100	300	450
Raven	" "	"	20	5/20	"	"	0	0	0	50
Crow	" "	"	300	5/1	"	"	5	30	120	200
Sparrow Hawk	Previous	Period	20	7/19	"	"	0	0	0	40
Turkey Vulture	"	"	80	7/19	"	"	0	0	0	100
Coopers Hawk	"	"	6	5/26	"	"	0	0	0	8
Red-tailed Hawk	"	"	2	5/30	"	"	0	0	0	6
Prairie Falcon	"	"	3	7/19	"	"	0	0	0	4
Marsh Hawk	"	"	30	7/2	"	"	0	0	0	40
Short-eared Owl	2	4/10	25	8/10	"	"	0	0	0	30

Reported by O. E. Larochelle, Ass't Mgr.

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

36104

3-1750b
Form NR-1B
(Rev. Nov. 1957)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Ruby Lake For 12-month period ending August 31, 1965

Reported by Donald E. Lewis Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat Type	(2) Habitat Acreage		(3) Use-days	(4) Breeding Population	(5) Production
North Sump I	Crops	0	Ducks	133,000	500	180
	Upland	10,000	Geese	5,000	10	20
	Marsh	4,000	Swans	1,000	0	0
	Water	0*	Coots	163,000	200	100
	Total	14,000	Total	302,000	710	300
Developed Units II	Crops	45	Ducks	650,000	1,500	1,300
	Upland	3,000	Geese	39,265	120	180
	Marsh	2,700	Swans	12,433	10	9
	Water	0*	Coots	1,760,225	4,000	2,100
	Total	5,745	Total	2,461,923	5,630	5,589
South Sump III	Crops	40	Ducks	1,150,575	2,500	2,200
	Upland	10,048	Geese	25,000	70	60
	Marsh	9,200	Swans	7,000	6	0
	Water	0*	Coots	920,000	3,000	3,800
	Total	19,288	Total	2,102,575	5,576	6,060
Total	Crops	85	Ducks	1,933,575	4,500	3,680
	Upland	23,048	Geese	69,265	200	260
	Marsh	15,900	Swans	20,433	16	9
	Water	0*	Coots	2,843,225	7,200	8,000
	Total	39,033	Total	4,866,498	11,916	11,949
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
*All water areas included in Marshland	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.

(5) **Production:** Estimated total number of young raised to flight age.

Interior Duplicating Section, Washington, D. C. 27580

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Ruby Lake Months of May to August, 19 65

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sage Grouse	Upland sage & rabbitbrush 20,000 acres	90	2	25	1 : 2 males	0	0	0	225	Residents On & Off use
Chukar Partridge	Mountain foothills 8000 acres	100	0	0	1:1	0	0	0	75	Resident populations occurring from transplants
Gray Partridge	Mountain foothills 8000 acres	160	0	0	1:1	0	0	0	50	Resident populations occurring from transplants
California Valley Quail	Mountain drainages 225 acres	3	3	30	1:1	0	0	0	80	Resident populations occurring from transplants

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Ruby Lake MONTHS OF September TO December, 1965

(1) Species	(2) Weeks of reporting period: 9/5-11 (1)	9/12-18 (2)	9/19-25 (3)	9/26-10/2 (4)	10/3-9 (5)	10/10-16 (6)	10/17-23 (7)	10/24-30 (8)	10/31-11/6 (9)	11/7-13 (10)
Swans:						Aerial				
Whistling										
Trumpeter	20	20	20	20	20	20	20	20	20	20
Geese:										
Canada	200	200	200	200	200	125	150	150	150	150
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	2,000	2,000	2,300	2,300	2,300	2,500	6,000	6,000	5,000	5,000
Black										
Gadwall	500	500	600	600	600	800	800	1,000	900	1,000
Baldpate	200	400	500	600	600	5,500	5,500	5,500	5,000	5,000
Pintail	2,500	2,500	2,500	2,500	2,500	2,300	3,000	3,000	4,000	4,000
Green-winged teal	800	1,000	1,000	1,000	1,000	700	1,000	1,200	1,100	1,500
Blue-winged teal	400	400	500	500	500	50	50	50	50	50
Cinnamon teal	400	400	300	300	300	300	300	150	100	100
Shoveler	200	300	400	500	500	150	200	250	250	250
Wood			25	25	50	50	50	50	50	50
Redhead	1,000	1,200	1,500	1,500	1,500	1,600	1,600	1,600	2,500	2,500
Ring-necked	200	100	50	50	50					
Canvasback	1,000	1,000	1,200	1,200	1,200	300	500	750	800	800
Scaup, Lesser	200	200	300	300	300	50	100	100	250	250
Goldeneye										
Bufflehead	200	300	400	400	400	150	150	150	150	150
Ruddy	400	400	500	500	500	300	300	300	300	300
Other										
TOTAL DUCKS	10,000	10,700	12,075	12,275	12,300	14,750	19,550	20,100	20,450	20,950
Coot:	16,000	16,000	18,000	18,000	18,000	24,000	24,000	24,000	24,000	24,000

INT.-DUP., D.C.-53824-59

3 -1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Ruby Lake MONTHS OF September TO December, 1965

(1) Species	(2) Weeks of reporting period 11 (11/14-20)	12 (11/21-27)	13 (11/28-12/4)	14 (12/5-11)	15 (12/12-18)	16 (12/19-25)	17 (12/26-1/1/66)	18	(3) Estimated waterfowl days use	(4) Production Broods seen	(4) Production Estimated total
Swans:	Aerial										
Whistling											
Trumpeter	14	20	20	20	20	14	14		2,254		
Geese:											
Canada	150	150	150	150	125	25	10		17,395		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard	2,500	2,100	2,000	1,500	1,100	300	250		316,050		
Black											
Gadwall	1,200	1,000	500	500	400	150	50		77,700		
Baldpate	2,600	2,100	1,000	750	500	100	100		251,650		
Pintail	2,000	1,500	1,500	1,000	600	200	150		250,250		
Green-winged teal	3,000	2,000	750	500	500	100	25		120,225		
Blue-winged teal									17,850		
Cinnamon teal									18,550		
Shoveler	250	200	100	50	25	25	10		25,620		
Wood	25	25	25	25	25	25	10		3,570		
Redhead	600	500	500	500	500	200	150		136,150		
Ring-necked		100	100	100	100	100	100		7,350		
Canvasback	500	350	100	50	50	25	10		68,845		
Scaup, Lesser	225	200	250	300	300	100	100		24,675		
Goldeneye		25	150	150	150	100	50		4,375		
Bufflehead	125	125	150	150	150	100	75		23,275		
Ruddy	100	50	25	25	25	25	25		28,525		
OtherComm. Merganser	20	10	10	10	10	10			490		
TOTAL DUCKS	13,145	10,285	7,160	5,610	4,435	1,560	1,105		1,375,150		
Coot:	24,000	20,000	3,000	2,000	1,600	750	250		1,803,200		

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans (Trumpeter)	2,254	20	
Geese	17,395	200	
Ducks	1,375,150	20,950	
Coots	1,803,200	24,000	

SUMMARY

Principal feeding areas Entire refuge marsh, open water, meadows and croplands until freeze-up. Refuge croplands, collection ditch and spring-heads after freeze-up.

Principal nesting areas

Reported by O. E. Larochelle

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.

(2) Weeks of Reporting Period: Estimated average refuge populations.

(3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.

(4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(5) Total Days Use: A summary of data recorded under (3).

(6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.

(7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.
1953

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Ruby Lake Months of September to December 1965

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Eared Grebe	6	10/4	20	10/4	2	10/26				
Pied-billed Grebe	Previous Period		100	10/30	2	12/31				
Great Blue Heron	Permanent Resident		75	10/4	15	12/31				
Snowy Egret	Previous Period		120	10/4	1	11/28				
Black-crowned Night Heron	"	"	80	9/29	4	12/31				
American Bittern	"	"	100	9/29	2	12/31				
White-faced Ibis	"	"	100	9/29	2	10/26				
Sandhill Crane	"	"	30	9/29	5	11/28				
II. Shorebirds, Gulls and Terns:										
Killdeer	Previous Period		30	9/4	2	12/31				
Common Snipe	Permanent Resident		20	9/11	1	12/31				
Long-billed Curlew	Previous Period		20	9/2	1	9/15				
Spotted Sandpiper	"	"	30	9/4	2	9/15				
Willet (Western)	"	"	10	9/2	2	9/15				
American Avocet	"	"	40	9/7	5	10/3				
Black-necked Stilt	"	"	10	9/2	2	9/8				
California Gull	"	"	5	9/27	1	11/6				
Forster's Tern	"	"	20	9/4	1	9/20				
Black Tern	"	"	10	9/4	2	9/4				

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove	Previous	Period	200	9/16	2	12/31		
White-winged dove								
IV. Predaceous Birds:								
Golden eagle	Previous	Period	5	12/22	5	12/31		
Duck hawk								
Horned owl	Permanent	Resident	6	12/22	6	12/31		
Magpie	"	"	200	12/23	200	12/31		
Raven	"	"	50	12/4	10	12/21		
Crow	"	"	200	11/16	50	12/31		
Turkey Vulture	Previous	Period	80	9/30	2	10/11		
Cooper's Hawk	"	"	2	12/23	1	12/31		
Red-tailed Hawk	"	"	4	11/23	1	12/31		
Rough-legged Hawk	"	"	4	12/22	4	12/31		
Marsh Hawk	Permanent	Resident	30	11/5	20	12/31		

Reported by O. E. Larochelle

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

36104

3-1750c
Form NR-1C
(Sept. 1960)

WATERFOWL HUNTER KILL SURV.

Refuge Ruby Lake

Year 1965

(1) Weeks of Hunting	(2) No. Hunters Checked	(3) Hunter Hours	(4) Waterfowl Species and Nos. of Each Bagged	(5) Total Bagged	(6) Crippling Loss	(7) Total Kill	(8) Est. No. of Hunters	(9) Est. Total Kill
10/16-23	16	58	Mallard 16, Pintail 14, Green-winged Teal 8, Gadwall 6, Cinnamon Teal 3, Redhead 3, Widgeon 3	53	8	61	90	185
10/24-30	10	35	Pintail 21, Mallard 6, Green-winged Teal 6, Redhead 5, Gadwall 2, Ruddy 1	41	6	47	60	141
10/31-11/6	16	48	Pintail 18, Mallard 15, Gadwall 13, Redhead 8, Widgeon 5	59	7	66	60	100
11/7-13	14	42	Mallard 20, Pintail 12, Redhead 10, Widgeon 6, Gadwall 4	52	3	55	60	78
11/14-20	12	36	Pintail 14, Mallard 12, Widgeon 6, Gadwall 5, Redhead 4	41	3	44	50	60
11/21-27	8	24	Widgeon 4, Redhead 2, Ruddy 1, Coot 1	8	2	10	40	21
11/28-12/4	6	18	Mallard 3, Pintail 3, Redhead 2	8	0	8	20	13
12/5-11	4	12	Redhead 2	2	0	2	30	2
12/12-18	2	6	Widgeon 6, Redhead 2	8	0	8	20	8
12/19-25	1	2	None	0	0	0	20	0
12/26-1/1/66	1	3	Mallard 3, Widgeon 1	4	0	4	20	4
1/2-1/8/66	3	10	Mallard 8, Pintail 2, Gadwall 1, Widgeon 1	12	0	12	30	12
TOTAL	93	294		288	29	317	500	624

Waterfowl Season October 16, 1965-
January 9, 1966

(over)

INSTRUCTIONS

(1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.

(2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.

(3) Record the total number of hours the hunters spent hunting on the refuge.

(4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).

(5) Record total numbers of waterfowl bagged.

(6) Record total numbers of waterfowl reported knocked down but not recovered.

(7) Total of Columns 5 and 6.

(8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).

(9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column 8}}{\text{Column 2}}$ x Column 7.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Ruby Lake Months of September to December, 19 65

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sage Grouse	Upland sage, rabbit-brush & meadows 20,000 acres	100							200	Residents On & Off use
California Valley Quail	Mountain drainages 225 acres	3							75	Resident populations occurring from transplants
Chukar Partridge	Mountain foothills 8000 acres	160							50	Resident populations occurring from transplants
Gray Partridge	Mountain Foothills 8000 acres	160							50	Resident populations occurring from transplants

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Ruby Lake Calendar Year 1965

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re-stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
Mule Deer	Upland sage, Rabbitbrush & meadows 27,000 acres	6	0	0	0	0	0	0	0	0		800*	15	1 buck:: 4 does

*Migrating and wintering animals

Remarks:

Reported by O. E. Larochelle

INSTRUCTIONS

Form NR-3 - BIG GAME

(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.

(4) REMOVALS: Indicate total number in each category removed during the year.

(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.

(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.

(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each</u> <u>species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

116008

3-1755
Form NR-5

DISEASE

Refuge Ruby Lake Year 1965

Botulism NONE

Lead Poisoning or other Disease NONE

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease _____

Species affected _____

Number Affected

Species	Actual Count	Estimated

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

INT.-DUP., D.C.- 53818-59

NR-6 Bureau of Sport Fisheries and Wildlife

PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge Ruby Lake Calendar Year 1965

1. Visits

a. Hunting 500 b. Fishing 15,000 c. Miscellaneous 4,600 d. TOTAL VISITS 20,100

1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl	500	9,000	Refuge
Upland Game			
Big Game			
Other			

Number of permanent blinds 0

Man-days of bow hunting included above 0

Estimated man-days of hunting on lands adjacent to refuge 4,500

1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes	10,000	
Streams and Shores		1

1c. Miscellaneous Visits

Recreation 3,900 Official 400

Economic Use 300 Industrial 0

2. Refuge Participation (groups)

TYPE OF ORGANIZATION	ON REFUGE		OFF REFUGE	
	NO. OF GROUPS	NUMBER IN GROUPS	NO. Of GROUPS	NUMBER IN GROUPS
Sportsmen Clubs	3	5	12	250
Bird and Garden Clubs	1	3		
Schools				
Service Clubs				
Youth Groups	1	25	26	1,820
Professional-Scientific	5	15	2	100
Religious Groups				
State or Federal Govt.	25	100	10	200
Other				

3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	30	Radio Presentations	1
Newspapers (P.R.'s sent to)	10	Exhibits	0
TV Presentations	1	Est. Exhibit Viewers	0

3-1756
(Rev. 4/63)

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and week-end samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item 1a: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.

Item 1c: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

Item 2: INCLUDE the "On Refuge" groups in Items 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

INTERIOR--PORTLAND, OREGON

3-1757
Form NR-7
(Rev. June 1960)

(1)

NONAGRICU. .RAL COLLECTIONS, RECEIPTS, AND .ANTINGS

Refuge Ruby Lake Year 1965

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
Pfitzer Juniper							Headquarters area-Residences	4' apart		190 small shrubs	8/16-11/4	95%	Unknown
Black Willow							Picnic area	10' apart		90 slips	7/8-7/14	99%	Unknown
Chinese Elm							Residences			20 3' trees	6/6-6/10	100%	Unknown

(1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:
Marsh and aquatic _____
Hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings _____

Remarks: _____

INTERIOR--PORTLAND, OREGON

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ruby Lake County Elko State Nevada

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Common Rye	0	0	0	0	85	2,100 Bu. 1,700 Lbs	85	Green browse, Hay and rye	85
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations _____ Haying Operations _____ Grazing Operations _____

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle		3,970.73	$5,889.72	18,100
				2. Other Horses		172.00	344.00	20,000
				1. Total Refuge Acreage Under Cultivation				85
Hay - Wild				2. Acreage Cultivated as Service Operation				85

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.-DUP. SEC., WASH., D.C.91767

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ruby Lake County White Pine State Nevada

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
NONE									
								Fallow Ag. Land	

No. of Permittees: Agricultural Operations _____ Haying Operations _____ Grazing Operations _____

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle		2,441.93	$3,662.89	8,900
				2. Other Horses		48.00	96.00	7,000
				1. Total Refuge Acreage Under Cultivation				0
Hay - Wild				2. Acreage Cultivated as Service Operation				0

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.-DUP. SEC., WASH., D.C. 91767

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Ruby Lake — Months of September through December, 1945

(1) Variety*	(2) On Hand Beginning of Period	(3) Received During Period	(4) Total	(5) Grain Disposed of				(6) On Hand End of Period	(7) Proposed or Suitable Use*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Common Rye	16 Bu.	0	16 Bu.	0	0	0	0	0 Bu.	16 Bu.	0	0
Crested Wheat	30 Bu.	0	30 Bu.	0	10 Bu	0	10 Bu.	20 Bu	20 Bu.	0	0
Henchen Barley	0	200 Bu	200 Bu.	0	0	100 Bu	100 Bu.	100 Bu.	0	100 Bu	0
Grain Screenings	50 Bu.	0	50 Bu.	0	0	50 Bu.	50 Bu.	0	0	0	0

(8) Indicate shipping or collection points Elko, Nevada

(9) Grain is stored at CCC Camp and headquarters

(10) Remarks

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR–9.

(3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.

(4) A total of columns 2 and 3.

(6) Column 4 less column 5.

(7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters granary," etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

INT.-DUP. SEC., WASH., D.C. 59323

3-1761
Form NR-11

TIMBER REMOVAL

Refuge Ruby Lake Year 1965

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
NONE								

Total acreage cut over.....

Total income.....

No. of units removed B. F.....

Cords.....

Ties.....

.....

Method of slash disposal.....

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PESTICIDE APPLICATION

Refuge: Ruby Lake

Proposal Number: 1-65

Reporting Year: 1965

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of *Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7-16 and 7-17	Rabbitbrush, Sagebrush, Grease wood	East side of marsh opposite Unit 21 and East Sump	800	2-4-D Amine + 2-4-5-T Phenoxy	220 gals. 55 gals.	2 A.E./acre ½ A.E./acre	6 oz/ac. 20-30 gal. water/ac.	Aerial apraying

10. Summary of results (continue on reverse side, if necessary)

Over-all results on all three species appears to be approximately 95%.

INTERIOR--PORTLAND, OREGON